

June 13th). The conditions of development were evidently most suitable to the larvæ; the resulting imagines were very fine specimens.

1. (Normal ova and normal warm larvæ).

a (+ °pupæ, not above 37°C. transferred immediately.)

Oval stg.	Larval stg.	Pupated.	Pupal stg.	Emerged.
26 or 28.5-10.6 13 or 15	— 17-18	27-28.6 —	— 8-11 (days)=	6-8.7=39-43 days. of 78 pupæ, all emerge as var. <i>teloides</i> , but among these there are 9 ab. <i>teloides-nigrifasciata</i> , and 37 other specimens show the same aberrational tendency. The ground colour was darkened in all the specimens, and among them are also 15 <i>lucidocellata</i> , 7 belonging to the fasciated, and 8 to the common forms of <i>teloides</i> . The tendency to ab. <i>marginalis</i> was visible in a few specimens. All but the 9 ab. <i>teloides-nigrifasciata</i> were let fly.

b. ("warm" pupæ, not below 15°C.).

Oval stg.	Larval stg.	Pupated.	Pupal stg.	Emerged.
26 or 28.5-10.6 14 or 16	— 17-18	27-28.6 —	— 11-14 (days)=	9-11.7=42-46 days. of 25 pupæ all were var. <i>teloides</i> , tending more or less towards <i>nigrifasciata</i> and <i>marginalis</i> . Ground colour dark, 11 specimens were set.

c₁. (transferred as larvæ (pupating) to the mean shade-temperature, pupated 30.6 (instead of 28.6). After the 6.7 the pupæ were kept at +20-40°C).

Oval stg.	Larval stg.	Pupated.	Pupal stg.	Emerged.
26 or 28.5-10.6 13 or 15	— 20	30.6 —	— 16 (days) =	16.7=49-51 days. of seven pupæ, seven fine ab. <i>mesoides-brunnea</i> , one with grey hindwing ocellus. The wing margins were more dentated than usual. All were set. The sensitive stage had evidently been passed—i.e., the form <i>mesoides</i> had been fixed in these pupæ by the 6.7 at about 10-12°C. The nights were only 8°C. warm at that period, the thermometer recording 50°F. (10°C.) only on the 30.6.

c₂. (transferred as c₁, but kept in the cold till the 16.7, afterwards +25 to 45°C. (7 + extr. °pupæ), and +25 to 40°C. (6 + °pupæ).)

Oval stg.	Larval stg.	Pupated.	Pupal stg.	Emerged.
26 or 28.5-10.6 13 or 15	— 20	30.6 —	— 21-22 (days)=	21-22.7=54-57 days. the 6 + pupæ emerge as rather dark var. <i>mesoides</i> , of the 7 + extr. °pupæ only one emerges as a fine ab. <i>mesoides-brunnea</i> , the rest are dead or cripples of the same form. This time the ground colour only was influenced by the extreme temperatures. All were set.

c₃. (transferred as under c₁, but left wholly in the cold).

Oval stg.	Larval stg.	Pupated.	Pupal stg.	Emerged.
26 or 28.5-10.6 13 or 15	— 18-22	28.6-2.7 —	— 30-36 (days)=	1-3.8=65-69 days. all the 70 pupæ emerge as normal or light colored var. <i>mesoides</i> , extreme form, with (in the ♀s) a full row of black spots in the margins of the forewings; 36 were set.

Of 296 specimens here recorded 190 are ab. *cyanostieta*, Rayn.

Some Parasites of *Lasius fuliginosus*, *L. niger*, and *L. flavus*.

By W. C. CRAWLEY, B.A., F.E.S.

During August and September, 1898, I had a colony of *Lasius fuliginosus* in a "Lubbock" observation nest. On August 29th, I noticed among the larvæ three small brown objects, each stationed on a larva. These mites were about the size of a pin's head, and had a highly polished shell; the legs, which did not project beyond the edge of the shell, were soft and incapable of gripping the body of the larva. These parasites occasionally changed their position on the larvæ, and did not

appear to injure them in any way. The ants took no notice of them.

In this nest there was a large number of *Antennophori* (the species was without doubt *A. grandis*), about 12 per cent. of the ants being infested with them. The same summer I found *Antennophori* with both *Lasius niger* and *L. flavus*. The position of an *Antennophorus* on an ant was generally the underside of the head, though they were occasionally seen on the top of the head, on an antenna, and on the abdomen. Sometimes as many as three were on one ant, two generally being on the abdomen, and the third under the head. On one occasion I saw a pair apparently copulating on the antenna of a *L. niger*. I observed ants of this species try to brush the parasites from their antennæ.

On August 13th, 1909, I found an *Antennophorus* on the underside of a ♀ of *Lasius flavus* belonging to a colony in a "Janet" nest. When I first observed the *Antennophorus* it was attempting to transfer itself to the head of a ♂ standing face to face with the ♀, but though it made several attempts, the ♂ always drew back in time to prevent the parasite getting hold. The *Antennophorus* made no attempt to transfer itself to other ♀s. Its host occasionally attempted to brush it away when feeding larvæ, as, owing to the position of the parasite, the ant could not reach the mouths of the larvæ. This ant never seemed to leave the chamber that I first found it in, as it was there every day I looked for it. On November 12th, 1909, I removed this *Antennophorus* from its host. It gripped the point of a needle so fiercely, that some force was required to dislodge it. Thus it is easy to understand that the ants could not remove these parasites themselves, even if they wished. I put this *Antennophorus* in a nest of *Lasius niger*, where it remained stationary, waving its "feelers" to and fro. Several ants touched it with their antennæ, and went away. At last an ant seized it by one of its "feelers." The *Antennophorus* instantly clung to the ant's head, the ant, meanwhile, running backwards in great agitation. At last the ant released its grip of the *Antennophorus*, which immediately ran with extraordinary quickness along the left side of the ant, and stationed itself on the left side of the abdomen. The ant writhed and rolled over and over, but could not get rid of its burden. For some hours after the ant showed signs of discomfort, but eventually seemed to become resigned to its burden. Several other ants examined the parasite, but made no attempt to remove it. I saw the parasite the next day in the same position on its host, but since then I have been unable to find it. A great many ants in the above-mentioned nest of *L. fuliginosus*, carried on the the top of the thorax numbers of a small oblong white parasite, which seemed to cause the ants considerable discomfort.

Aphides of *Lasius niger*.

By W. C. CRAWLEY, B.A., F.E.S.

On August 31st, 1895, I found three aphides in a nest of *L. niger*, two of which I secured. They were moving about among the ants, and were not attached to grass roots, as the common species of aphis kept by this ant usually is. These aphides were different from any others that I had ever found in ants' nests, and the full-grown ones were of a considerable size, fully $\frac{1}{4}$ inch in length. They were creamy-white